

CLAIMS:

What is claimed is:

1. A method for managing a user key used to sign a message for a data processing system, said method comprising:

assigning a user key to a user and storing the user key in a data processing system for encrypting messages;

encrypting the messages with the user key;

storing an associated key in the data processing system and encrypting the user key with the associated key to obtain an encrypted user key;

communicating encrypted messages in conjunction with the encrypted user key to validate an association of the user with the encrypted messages; and

thereafter, preventing validation of the association of the user with messages by revoking the associated key.

1 2. The method according to Claim 1, further comprising:
2 decrypting the user key with the associated key; and
3 decrypting the messages with the user key.

1 3. The method according to Claim 1, wherein the data
2 processing system further comprises a client system having
3 a client memory device coupled to a server system having
4 an encryption chip and a server memory device and wherein:

5 storing the user key in a data processing system for
6 encrypting messages further comprises storing the user key
7 in the client memory device;

8 storing the associated key in the data processing
9 system further comprises storing the associated key in the
10 server memory device; and

11 preventing validation further comprises preventing
12 the validation of the messages associated with the user by
13 eliminating the associated key from the server memory
14 device.

1 4. The method according to Claim 3, wherein encrypting
2 the messages further comprises:

3 sending the messages to be encrypted from the client
4 system to the server system;

5 encrypting the messages using the encryption chip of
6 the server system; and

7 sending the encrypted messages from the server system

to the client system.

5. The method according to Claim 4, further comprising:

erasing from the server system all data relating to the encrypted messages after the encrypted messages are sent from the server system to the client system.

6. The method according to Claim 1, further comprising:

encrypting the associated key by using an encryption chip key which is stored on an encryption chip of the data processing system.

7. The method according to Claim 6, further comprising:

encrypting the associated key with the encryption chip key; and

communicating an encrypted associated key to validate the association of the user with the encrypted messages.

8. The method according to Claim 7, further comprising:

decrypting the associated key with the encryption chip key.

9. A system for managing a user key used to sign a message for a data processing system, said system comprising:

means for assigning a user key to a user and storing the user key in a data processing system for encrypting messages;

means for encrypting the messages with the user key;

means for storing an associated key in the data processing system and encrypting the user key with the associated key to obtain an encrypted user key;

means for communicating encrypted messages in conjunction with the encrypted user key to validate an association of the user with the encrypted messages; and

means for thereafter preventing validation of the association of the user with messages by revoking the associated key.

10. The system according to Claim 9, further comprising:

means for decrypting the user key with the associated key; and

means for decrypting the messages with the user key.

11. The system according to Claim 9, wherein the data processing system further comprises a client system having a client memory device coupled to a server system having an encryption chip and a server memory device and wherein:

said means for storing the user key in a data processing system for encrypting messages further comprises means for storing the user key in the client memory device;

said means for storing the associated key in the data processing system further comprises means for storing the associated key in the server memory device; and

said means for preventing validation further comprises means for preventing the validation of the messages associated with the user by eliminating the associated key from the server memory device.

12. The system according to Claim 11, wherein said means for encrypting the messages further comprises:

means for sending the messages to be encrypted from the client system to the server system;

means for encrypting the messages using the encryption chip of the server system; and

7 means for sending the encrypted messages from the
8 server system to the client system.

1 13. The system according to Claim 12, further comprising:

2 means for erasing from the server system all data
3 relating to the encrypted messages after the encrypted
4 messages are sent from the server system to the client
5 system.

1 14. The system according to Claim 9, further comprising:

2 means for encrypting the associated key by using an
3 encryption chip key which is stored on an encryption chip
4 of the data processing system.

1 15. The system according to Claim 14, further comprising:

2 means for encrypting the associated key with the
3 encryption chip key; and

4 means for communicating an encrypted associated key
5 to validate the association of the user with the encrypted
6 messages.

1 16. The system according to Claim 15, further comprising:

2 means for decrypting the associated key with the
3 encryption chip key.

1 17. A program product for managing a user key used to
2 sign a message for a data processing system, said program
3 product comprising:

a control program including:

instruction means for assigning a user key to a user and storing the user key in a data processing system for encrypting messages;

instruction means for encrypting the messages with the user key;

instruction means for storing an associated key in the data processing system and encrypting the user key with the associated key to obtain an encrypted user key;

instruction means for communicating encrypted messages in conjunction with the encrypted user key to validate an association of the user with the encrypted messages;

instruction means for thereafter preventing validation of the association of the user with messages by revoking the associated key; and

computer usable media bearing said control program.

1 18. The program product according to Claim 17, further
2 comprising:

3 instruction means for decrypting the user key with
4 the associated key; and

5 instruction means for decrypting the messages with
6 the user key.

1 19. The program product according to Claim 17, wherein
2 the data processing system further comprises a client
3 system having a client memory device coupled to a server
4 system having an encryption chip and a server memory
5 device and wherein:

6 said instruction means for storing the user key in a
7 data processing system for encrypting messages further
8 comprises instruction means for storing the user key in
9 the client memory device;

10 said instruction means for storing the associated key
11 in the data processing system further comprises
12 instruction means for storing the associated key in the
13 server memory device; and

14 said instruction means for preventing validation
15 further comprises instruction means for preventing the
16 validation of the messages associated with the user by
17 eliminating the associated key from the server memory
18 device.

1 20. The program product according to Claim 19, wherein
2 said instruction means for encrypting the messages further
3 comprises:

4 instruction means for sending the messages to be
5 encrypted from the client system to the server system;

6 instruction means for encrypting the messages using
7 the encryption chip of the server system; and

8 instruction means for sending the encrypted messages
9 from the server system to the client system.

1 21. The program product according to Claim 20, further
2 comprising:

3 instruction means for erasing from the server system
4 all data relating to the encrypted messages after the
5 encrypted messages are sent from the server system to the
6 client system.

1 22. The program product according to Claim 17, further
2 comprising:

3 instruction means for encrypting the associated key
4 by using an encryption chip key which is stored on an
5 encryption chip of the data processing system.

1 23. The program product according to Claim 22, further
2 comprising:

3 instruction means for encrypting the associated key
4 with the encryption chip key; and

5 instruction means for communicating an encrypted
6 associated key to validate the association of the user
7 with the encrypted messages.

24. The program product according to Claim 23, further comprising:

instruction means for decrypting the associated key with the encryption chip key.

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